CLAIMS

1. A method of increasing the precision in controlling the path of a product through a roller leveler of the type comprising a fixed support stand (1), two leveling assemblies consisting of parallel rolls, these assemblies being placed above (2) and below (2') the strip respectively, the devices (3, 52) needed for setting the imbrication of the rolls, means (35) for measuring the leveling forces at least on the two sides of the leveler, characterized in that a theoretical presetting model (110) gives at least one reference value for presetting the imbrications, in that, during the leveling operation, at least one value of the separation of the leveling rolls is measured directly, this being compared with the reference values, and in that the members (3, 52) for setting the position of the leveling rolls are acted upon in order to keep the measured values equal to the reference values with increased precision so as to keep the path of the product to be leveled in the leveler in accordance with the undulation predicted by the model (110) for implementing the leveling operation.

2. The method of increasing the control of the path of the product in a leveler as claimed in claim 1, characterized in that two measurements of the value of the separation of the leveling rolls are taken, a first at the entry of the leveler and a second at the exit of the leveler respectively, in that each of these measurements is compared with the reference value given by the model (110) and in that the members (3, 52) for setting the position of the leveling rolls, at the entry and exit of the leveler respectively, are acted upon

in order to keep the measured value equal to the reference value with increased precision so as to be able to achieve the decrease in degree of plastic deformation predicted by the model (110) for implementing the leveling operation.

3. The method of controlling the path of the product through a leveler as claimed in claim 1, characterized in that a measurement of the value of the separation of each of the leveling rolls (4, 4') is taken and each of these measurements is compared with the reference value given by the model (110) and in that the individual members (3) for setting the position of each of the leveling rolls is acted upon in order to keep the measured value equal to the reference value with increased precision so as to achieve the undulation and the decrease in degree of plastic deformation that are predicted by the model (110) for implementing the leveling operation.

4. The method of controlling the path of the product through a leveler as claimed in any one of the preceding claims, characterized in that equileveling of the work rolls is carried out using a flat machined plate of known thickness by modifying the position of the work rolls in a differential manner by a lateral tilt from one side onto the other so as to equalize the leveling forces on the two sides of the leveler that are measured by the measurement devices (35).

5. The method of controlling the path of the product through a leveler as claimed in claim 4, characterized in that the equileveling is carried out using a running plate by modifying the position of the work rolls in a differential manner by a lateral tilt from one side onto the other and in that the average values of the forces

recorded by the measurement devices (35) on each side during said run are equalized.

6. A parallel-roll leveling installation for implementing the method as claimed in any one of claims 1 to 5, comprising a fixed support stand (1), two leveler assemblies consisting of parallel rolls, these being placed above (2) and below (2') the strip respectively, devices (3, 52) needed for setting the imbrication of the rolls (4, 4') and means (35) for measuring the leveling forces at least on each side of the leveler, characterized in that the installation is provided with at least one device (6, 6') enabling the separation of the leveling rolls at at least one point to be measured directly.

7. The parallel-roll leveling installation as claimed in claim 6, characterized in that it includes at least one electronic device (9) for slaving the measured separation of the leveling rolls to the theoretical value given by the model (110) by acting on the imbrication-setting devices (3).

8. The parallel-roll leveling installation as claimed in claim 7, characterized in that the imbrication-setting devices (3) are hydraulically controlled.

9. The parallel-roll leveling installation as claimed in claim 6, characterized in that the installation is provided with a device enabling the separation of the leveling rolls at at least two points to be measured directly, one (6) located in the entry zone and the other (6') located in the exit zone of the leveler.

10. The parallel-roll leveling installation as claimed in claim 9, characterized in that it includes at least one electronic device (9) for slaving the

measured separation of the leveling rolls located in the entry zone and in the exit zone of the leveler respectively to the theoretical value given by the model (110) for the separation of the rolls located in the entry zone and the exit zone of the leveler respectively by acting independently on the devices (3) for setting the imbrication of the rolls in each of the entry and exit zones respectively.

11. The parallel-roll leveling installation as claimed in claim 10, characterized in that the imbrication-setting devices (3) are hydraulically controlled.

12. The parallel-roll leveling installation as claimed in claim 6, characterized in that the installation is provided with a device (6, 6') enabling the separation of each pair of leveling work rolls (4, 4') to be measured directly and separately.

13. The parallel-roll leveling installation as claimed in claim 12, characterized in that it includes at least one means for individually setting the position of each leveling roll and at least one electronic device (9) for slaving the measured separation of each of the leveling rolls to the theoretical value given by the model (110) for the separation of each of these rolls by acting independently on their imbrication-setting device (52).

14. The parallel-roll leveling installation as claimed in claim 13, characterized in that the device (52) for setting the imbrication of each roll (4) is hydraulically controlled.

15. The parallel-roll leveling installation as claimed in any one of claims 8, 11 or 14, characterized in

that the electronic device or devices (9) for slaving the measured separation of the leveling rolls to the theoretical value given by the model (110) that the installation includes makes it possible to set a differential lateral tilt of the rolls on one side relative to the other with respect to a setpoint value.